

## Welcome to the Fourth Annual Consortium for Computing Sciences in Colleges Southwest Regional Conference

Loyola Marymount University, Los Angeles, California

April 1-2, 2011

Friday, 1 April 2011

**Registration** 1:30-2:00 p.m.

The Hill, Malone 460

**Welcome** 2:00-2:30 p.m.

Dr. Richard Plumb, Dean, Seaver College of Science and Engineering  
Dr. Stephanie E. August, CCSC:SW Conference Chair, Loyola Marymount University

**Keynote Presentation** 2:30-3:30 p.m.

**Dr. L. Jean Camp**, Indiana University Bloomington  
*Computer Security and, versus, or Security Informatics*

	<b>Paper Session 1: Non-majors</b> Session Chair Jim Blythe The Hill, Malone 460	<b>Tutorial 1</b> Session Chair Tzu-Yi Chen Foley Green Room
3:30 p.m.	<b><i>Using Human-Centered Design to Expose Humans to Computer Science</i></b> Megan Thomas, CSU Stanislaus	<b><i>How to Organize a Professional Development Workshop for High School CS Teachers</i></b>  Joanne McGrath Cohoon*† Lecia Barker* James P. Cohoon*†  *National Center for Women & Information Technology †University of Virginia
4:00 p.m.	<b><i>La Bella Figura: Making a Good Impression When Teaching an Introduction to Programming to Non-engineers</i></b> Ani Nahapetian, UCLA	
4:30 p.m.	<b><i>Pixels as Polymers: Unifying Introductory Biology and Computer Science through Visual Computation</i></b> Zachary Dodds, Eliot Bush, Ran Libeskind-Hadas, Harvey Mudd College	

**Break** 5:00-5:15 p.m.

**Vendor Display**

The Hill, Malone 460

**Friday, 1 April 2011**

	<b>Paper Session 2: Technology</b> <b>Session Chair Irena Kageorgis</b> Huesman Lounge	<b>Tutorial 2</b> <b>Session Chair Stephanie E. August</b> Foley Green Room
5:15 p.m.	<b><i>Face-To-Face Experiences for Online Students: Effective, Efficient, and Engaging Hybrid Classes</i></b> Esmail Bonadkarian, Todd Whittaker Franklin University	<b><i>Recruiting Women into Your Computing Major</i></b>  Joanne McGrath Cohoon*† Lecia Barker* <sup>o</sup> *National Center for Women & Information Technology †University of Virginia <sup>o</sup> University of Texas at Austin
5:45 p.m.	<b><i>Semantic Information System</i></b> JohnPaul Adigwu, Aleksandr Milshteyn, Adrienne Lam, CSULA	
6:15 p.m.	<b><i>Touchcasting Digital Lecture Notes</i></b> James Dean Palmer, Northern Arizona University	

**Break** 6:45-7:00 p.m.

**Dinner** 7:00-8:30 p.m.  
The Hill, Malone 460

CCSC Regional Meeting (All are welcome)  
Nomination for Regional Representative and Region Chair  
Candidates Statements

**Adjourn** 8:30 p.m.

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**Saturday, 2 April 2011**

**Registration** 8:00 – 9:00 a.m.  
Pereira 120 Lobby

**Breakfast** 8:00 – 9:00 a.m.  
Pereira 120 Lobby

**Welcome** 9:00 – 9:15 a.m.  
**Keynote Presentation** 9:15 – 10:15 a.m.  
Pereira 120

**Scott Easley**, University of Southern California Gamepipe Program

**Break** 10:15 – 10:30 a.m.  
Pereira 120 Lobby

<b>Paper Session 3: Course Design and Assessment</b> Session Chair Peter Gabrovsky Pereira 120		<b>Tutorial 3</b> Session Chair Kim Kihlstrom Pereira 121
10:30 a.m.	<b><i>Software Engineering Course Design for Undergraduates</i></b> Jianchao Han, CSU Dominguez Hills	<b><i>Short Mobile Game Development Projects for CS1/2</i></b>  Stan Kurkovsky, Central Connecticut State University Delvin Defoe, Rose-Hulman Institute of Technology
11:00 a.m.	<b><i>Developing Students' Self-Assessment Skills Using Lab-Centric Instruction</i></b> Colleen M. Lewis, Michael Clancy, Nathaniel Titterton, UC Berkeley	
11:30 a.m.	<b><i>Learning Objective Based Design of a Computer Simulation Course</i></b> Michael Doherty, University of the Pacific	

**Lunch** noon – 1:00 p.m.  
Pereira 120 Lobby

**Vendor Exhibits**  
**Student Poster Session**  
Pereira 128

**Keynote Presentation** 1:00 – 2:00 p.m.  
Pereira 120 Lobby

**Sven Koenig**, University of Southern California and National Science Foundation

**Break 2:15 – 2:30 p.m.**

<b>Paper Session 4: Gender and Math</b> <b>Session Chair Ani Nahapetian</b> Pereira 120		<b>Tutorial 4</b> <b>Session Chair Mike Doherty</b> Pereira 121	
2:30 p.m.	<b><i>Leveraging Existing Outreach Programs to Reach Underrepresented Minorities</i></b> <b>Tzu-Yi Chen, Sara Owsley Sood, Lucy Vasserman, Maribel Gonzalez,</b> Pomona College	<b><i>Peer Instruction</i></b>  <b>John Glick,</b> University of San Diego <b>Leo Porter,</b> University of California, San Diego <b>Beth Simon,</b> University of California, San Diego <b>Daniel Zingaro,</b> University of Toronto	
3:00 p.m.	<b><i>Working Together: Words and Math</i></b> <b>Allison Neyer, Stephanie E. August, Michele Hammers,</b> Loyola Marymount University		
3:30 p.m.	<b><i>Original Historical Sources in Data Structures and Algorithms Courses</i></b> <b>Inna Pivkina,</b> New Mexico State University		
4:00 p.m.	<b><i>Sets Early and Probability</i></b> <b>John Motil,</b> CSU Northridge	<b>An (AP) CS Principles Pilot:                      A Course for All College-bound Students</b>  <b>Beth Simon,</b> University of California, San Diego	

**Break 4:30 - 4:40 p.m.**

**Keynote Presentation 4:40 – 5:40 p.m.**  
 Pereira 120 Lobby

**Scott Grissom,** Program Director, National Science Foundation  
*NSF Funding Opportunities for CS Faculty and Tips for Submitting Grant Proposals*

**Closing Remarks 5:40 - 5:50 p.m.**

## Abstracts

### Keynote Presentations

**Friday, 1 April 2011**

**2:30 - 3:30 p.m.**

The Hill, Malone 460

**Dr. L. Jean Camp, Indiana University Bloomington**  
***Computer Security and, versus, or Security Informatics***

Economic and technical trends have created the need for specialists in computer security. Rather than requiring the creation of ever more narrow programs of study, security informatics offers a different path. Unlike traditional computer security programs in computer science departments, this program focuses on a holistic view of security by looking at technical, user, and organizational aspects. Computer science programs have traditionally focused only on the technical aspects of security, which is at least partially responsible for the failure to address successfully some of the more social types of online attacks, such as phishing (a form of Internet scam that allows thieves access to the victim's accounts). For example, security mechanisms which can be used to preemptively find and stop phishing attacks exist in most browsers, but because these technologies are difficult to engage, few people are aware of their existence. Even fewer are able to effectively use these technologies. Similarly many technical security measures now fail in large part due to the lack of consideration given to the human, organizational, and economic dimensions in security design. Security Informatics provides a more encompassing perspective on security. Security Informatics can be combined with other areas, as shown by Indiana's use of concentrations in the local Security Informatics program, to leverage institutional strength in psychology, economics, health care, or regional studies. Also, by focusing on areas where women and men of color are not as under-represented as in computer science, security informatics can create an opportunity for recruitment in populations that might not consider a more traditional degree.

**Saturday, 2 April 2011**

**9:15 – 10:15 a.m.**

Pereira 120

**Scott Easley, University of Southern California Gamepipe Program**  
***Building an Academic Video Game Pipeline***

Starting up a video game program at a major University has to take into account several crucial factors: Corraling hundreds of students with no previous experience, integrating disparate classes, the constant need to create thousands of 3d assets, and ultimately how to track the production of all student games. Within two semesters, Scott Easley helped to create the Gamepipe Program at the University of Southern California's Viterbi school of Engineering -- which in 2010 was ranked as the #1 video game design program by The Princeton Review.

**Saturday, 2 April 2011**

**1:00 – 2:00 p.m.**

Pereira 120

**Sven Koenig, University of Southern California and National Science Foundation**  
***Computer Science Curricula***

Sven Koenig will discuss some of his ideas related to computer science curricula and, in this context, raise questions such as: Do computer science students need to know statistics? Can we teach concepts from computer science with games? Should students who are interested in artificial intelligence consider taking classes in operations research? What should we teach undergraduate students about research and research ethics?

**4:40 – 5:40 p.m.**

Pereira 120

**Scott Grissom, Program Director, National Science Foundation**  
***NSF Funding Opportunities for CS Faculty and Tips for Submitting Grant Proposals***

National Science Foundation (NSF) programs are quite competitive but there are simple strategies that investigators should be aware of to improve their chances of success. This session describes some education-related programs in the EHR and CISE directorates, highlights programs in the NSF of particular interest to computer science educators, and enables participants to interact with the presenter concerning specific project ideas that could be appropriate for the various programs. Topics include a description of program goals, guidelines, review process as well as strategies for writing competitive proposals. Dr. Grissom is an NSF Program Officer in the Division of Undergraduate Education and has a wealth of experience working with NSF-funded principle investigators.

## Tutorials

**Friday, 1 April 2011**

**3:30 - 5:00 p.m.**

Foley Green Room

***How to Organize a Professional Development Workshop for High School CS Teachers***

**Joanne McGrath Cohoon\*†**

**Lecia Barker\***

**James P. Cohoon\*†**

\*National Center for Women & Information Technology

†University of Virginia

**5:15 - 6:45 p.m.**

Foley Green Room

***Recruiting Women into Your Computing Major***

**Joanne McGrath Cohoon\*†**

**Lecia Barker\*º**

\*National Center for Women & Information Technology †University of Virginia

ºUniversity of Texas at Austin

**Saturday, 2 April 2011**

**10:30 a.m. - noon**

Pereira 121

***Short Mobile Game Development Projects for CS1/2***

**Stan Kurkovsky**, Central Connecticut State University

**Delvin Defoe**, Rose-Hulman Institute of Technology

**2:30 - 4:00 p.m.**

Pereira 121

***Peer Instruction***

**John Glick**, University of San Diego

**Leo Porter**, University of California, San Diego

**Beth Simon**, University of California, San Diego

**Daniel Zingaro**, University of Toronto